

irHeadband User Manual

Thank you for your purchase of the iCOMBAT system. This highly realistic law enforcement training tool has been developed to meet the needs of training programs world wide. The system is very dependable and can be used for a variety of exercises suiting the user. The irHeadband is a receiving component of the system and is designed to communicate with the irM4 and Central Command Module (CCM). The irHeadband is constructed of extremely durable materials and you'll be able to train cheaper, faster, and anywhere.

Safety



WARNING

The iCOMBAT system is designed to be very realistic in order to meet the needs of law enforcement training programs. Users must take care in keeping the irM4 separate from real firearms at all times. Training with the iCOMBAT system must never occur in areas where real firearms and other hazardous equipment are being used. Serious injury or even death may occur. Prior to using the irVest, please ensure that it visibly appears to be in good shape. If something seems loose or odd, contact iCOMBAT.



CAUTION

The developers at iCOMBAT have taken great care in designing a product that can be used safely. The irM4 is unable to fire a projectile and cannot be made to fire a projectile in any way. Instead, an infrared laser is emitted to 'simulate' a projectile. This beam of infrared light is completely invisible and eye safe. The irM4 is designed to emit this infrared light at safe levels that do not constitute a health hazard. However, as with any light source, we recommend that the user take precautions to avoid any unnecessary exposure such as intentionally aiming the rifle at someone's eyes or staring down the barrel at close range for extended periods of time.



CAUTION

Always pay attention to the training organizer and safety briefings when instructed. Be aware of any signs or special hazards in area. iCOMBAT doesn't provide any training.



CAUTION

Never modify your irVest or iCOMBAT gear in any way at any time for any reason. Repairing the irVest or replacing parts may only be done by a certified iCOMBAT technician or with their permission. Disassembly of the irVest might damage sensitive electronics or internal components and immediately voids the factory warranty.

irHeadband User Manual



FCC NOTICE

This product contains FCC ID: UYI24

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference and
- (2) this device must accept any interference received,
including interference that may cause undesired
operation.

Instruction to user:

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- * Reorient or relocate the receiving antenna (on radio, TV, or other device).
- * Increase the separation between the equipment and receiver.
- * Consult the dealer or an experienced radio/TV technician for help.

In order to maintain compliance with FCC regulations, shielded cables are used with this equipment or product. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment or product without the approval of manufacturer could void the user's authority to operate this equipment as well as the factory warranty.

irHeadband User Manual

Liability Statement

This product is surrendered by iCOMBAT with the understanding that the purchaser and or user assumes all liability resulting from unsafe handling or any action that constitutes a violation of any applicable laws or regulations. iCOMBAT shall not be liable for personal injury, loss of property or life resulting from the use of this product under any circumstances. All information contained in this manual is subject to change without notice. iCOMBAT reserves the right to make changes and improvements to products and manuals without incurring any obligation to incorporate such improvements in products previously sold.

Warranty

iCOMBAT warrants that this product is found free from defects in materials and workmanship for a period of one year from the original date of purchase by the initial owner/purchaser. This warranty does not apply to a) defects discovered after purchase which were caused by the unauthorized modifications, alterations or misuse of the purchased product; b) consumable parts such as batteries, o-rings, or other components designed to diminish or may wear out over time; c) cosmetic damage, including but not limited to, scratches, dents, rips, tears, or broken plastics and metals; d) damage caused by accident, abuse, misuse, liquid contact, fire, flood, or other external cause; e) damage occurring from operating product outside of iCOMBAT's published guidelines found in this manual or otherwise; f) damage caused by service such as upgrades and expansions performed by anyone who is not a representative of iCOMBAT; g) iCOMBAT products that have been functionally or capability modified without written permission from iCOMBAT; h) defects caused by normal wear and tear or otherwise due to normal aging of the iCOMBAT product; i) an iCOMBAT product in which the serial number has been removed or defaced, or is otherwise illegible. Determining a product's warranty status is solely the responsibility of iCOMBAT. iCOMBAT will repair or replace, without charge, any of its products that have failed through defect in material or workmanship.

IMPORTANT: Do not open or otherwise disassemble your iCOMBAT product without express written permission from an authorized iCOMBAT representative. Opening or disassembling the product may cause damage that is not covered under warranty.

EXCEPT AS EXPRESSLY STATED HERIN, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF THE PRODUCTS OR SERVICES FURNISHED BY iCOMBAT. iCOMBAT SPECIFICALLY DISCLAIMS AND EXCLUDES ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. iCOMBAT SHALL NOT BE LIABLE FOR, NOR DOES iCOMBAT AUTHORIZE ANY PERSON TO ASSUME FOR iCOMBAT, ANY LIABILITY IN CONNECTION WITH THE PRODUCTS OR SERVICES FURNISHED BY iCOMBAT INCLUDING, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, LIABILITY FOR LOSS OF PRODUCTION, PRODUCT, EQUIPMENT OR PROFITS OR LIABILITY FOR DIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES TO PERSONS OR PROPERTY. PURCHASER AGREES THAT PURCHASER'S SOLE REMEDY FOR LIABILITY OF ANY KIND, INCLUDING NEGLIGENCE WITH RESPECT TO THE PRODUCTS AND SERVICES FURNISHED BY iCOMBAT SHALL BE LIMITED TO THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY.

Service

If you begin to notice odd performance with any of your iCOMBAT gear, please contact iCOMBAT Customer Service at 888-950-1221 right away. You may also email iCOMBAT Service at support@iCOMBAT.com.

All iCOMBAT products are covered under a 1 year limited warranty from the time of purchase. If your iCOMBAT product must be serviced, contact iCOMBAT Customer Service at support@iCOMBAT.com to receive return instructions. If your product is found to be outside of warranty, iCOMBAT will contact you with any charges before proceeding to repair your product. You are responsible for all shipping charges to and from iCOMBAT for both warranty and non-warranty repairs. In most cases, iCOMBAT can simply send you the parts you require for repair if a technician has approved.

AS STATED ABOVE, YOU ARE RESPONSIBLE FOR ALL SHIPPING CHARGES TO AND FROM iCOMBAT FOR ANY/ ALL SERVICES BOTH UNDER WARRANTY AND NOT UNDER WARRANTY.

iCOMBAT is a division of Universal Electronics, Inc.

irHeadband User Manual

The irHeadband

Take a few minutes and orientate yourself with the irHeadband. Become familiar with its functions and design. On the back of the irHeadband is the control box. The control box should not be removed. Adjustable straps and wiring is attached. A beeper and multiple sensors are placed throughout and connect to the control box. These provide visual and audio feedback to both the wearer and viewers. The irHeadband's size can be adjusted to fit a wide variety of head and hat types. There are three modes pre-programmed into the control box for quick setup.



- 1. Piezo Speaker/Beeper
- 2. Multiple Sensors Throughout
- 3. Control Box / Sensor Window
- 4. Adjustable Sizing Strap
- 5. Power (P)
- 6. Sync (S)
- 7. CCM (C)
- 8. Mode (M)
- 9. USB Jack



Battery Power

The irHeadband is shipped with a minimal but uncertain charge in the lithium ion rechargeable batteries. It may require charging before use. Connect the supplied USB charger to the USB jack on the control box and plug it into a wall outlet. A completely dead battery will take approximately 3.5 hours to fully charge. The **P** LED indicator light will blink if the batteries are low (when not being charged) and also blink while charging. The irHeadband also beeps once every minute when the batteries are low. Charging is complete with the **P** LED light is solid.



CAUTION

DO NOT YANK USB CORD OUT OF HEADBAND. GENTLY GRAB IT AND REMOVE.

irHeadband User Manual

Step 1

To power on the irHeadband, press the **P** button. The red LED light above the **P** button will illuminate to show that the control box is on. After a moment, the irHeadband will beep and the Mode (**M**) button will illuminate to show Mode status. The **P** LED will blink if there is a low battery or charging in progress. To power the irHeadband off, press and hold the **P** button for 2 seconds.

Step 2 (*Determine which use you have*)

Sync to Weapon and StressX - (No irVest)

Sync your weapon to the irHeadband. To do so, press the Sync (**S**) button so that it begins blinking. Then take your IR weapon and shoot any sensor on the headband. After a moment, the headband will beep and the **S** button light will turn solid. You can sync one weapon to the headband.

Note: If the irHeadband gets hit while in Mode 1 (red) or hit the second time in Mode 2 (blue), any synced weapon will be disabled for a period of 30 seconds. After 30 seconds, the irHeadband will re-enable the weapon.

iCE: To sync the irHeadband to the CCM Server for use in iCE, simply press the CCM button while iCE is on the set up screen. The irHeadband will show up in the un-assigned players box. Any powered on and unsynced headbands can also be added to iCE with the Find Devices / AutoSync button found above the unassigned players box.

StressX: To sync the irHeadband to the StressX belt, press the Sync button on the StressX belt so that it begins blinking. Then quickly press the **S** button on the headband and point the Control Box Window to the red window on StressX. After a moment, both lights will go solid confirming a sync.

Sync to irVest

If you are already using an irVest, you can Sync your headband to it for more coverage area. First, press the Helmet button on the irVest so that it begins blinking. Then quickly press the **S** button on the irHeadband and point the irHeadband Control Box Sensor Window at any sensor on the irVest. After a moment, the Helmet and **S** button will beep and light up solid to confirm the sync.

Sync to Barracuda or Eagle Eye

First press the **S** button on the irHeadband so that it begins blinking. Then on the unit, select Sync and then Sync to Headband. Next, shoot the irHeadband. You'll hear a beep and light will go solid to confirm sync.

Step 3

The irHeadband has three modes pre-programmed into the control box. These cannot be changed or deleted. More modes are possible through iCE. To select the desired mode, press the Mode (**M**)

irHeadband User Manual

button to cycle through them. The LED light will change colors above the **M** button.

Note: Modes are not available when irHeadband is synced to iCE.

Mode 1: Red - One life. When the user is hit, all sensors will light up solid. The speakers on the irHeadband will also beep for 5 seconds. The user's weapon(s) will be disabled for a period of 30 seconds and the headband will not receive any other hits during this time. After 30 seconds, the headband will blink and beep 4 times to signify resuming. The users weapon(s) will be usable again at this time.

Mode 2: Blue - Two lives. The first time the user is hit, the hit sensors and beeper will blink and beep 5 times. Nothing else will happen. The second time the user is hit, the irHeadband will act the same as it does in mode 1.

Mode 3: Green - Unlimited lives. Each time the user is hit, the hit sensors will blink and the irHeadband will beep for 5 seconds. Nothing else happens.

It is possible to cycle through the modes at any time. If synced to the CCM, all of the data will be collected and stored for review. Each user's mode can be different, even when being used together.

LED Indicator and Programming

As mentioned previously, there are a number of red LED lights on the control box buttons. The LED indicator lights offer a quick look at the irHeadband's status.

Power Button LED (**P**)

- Off - irHeadband is powered off or has a dead battery
- Solid On - When USB not plugged in and powered on
- Blinking - When USB not plugged in signifies low power. Will also beep every minute
- Blinking - USB plugged in and charging. Will turn solidly on when charging has finished
- Blinking - USB plugged in and being programmed

Sync Button LED (**S**)

- Off - Not synced to any weapons
- Solid On - Synced to a weapon or StressX
- Blinking - Syncing initiated. Will turn solidly on when weapon has been synced

CCM Button LED (**C**)

- Off - Not synced to a CCM
- Solid On - Synced to a CCM
- Blinking - Syncing initiated. Will turn solidly on when synced to a CCM

Mode Button LED (**M**)

- Red - Mode one - one life
- Blue - Mode two - two lives
- Green - Mode three - unlimited lives
- Off - Synced to iCE - modes disabled

irHeadband User Manual

The USB port is used for charging the irHeadband and updating the software. New software updates are released periodically free of charge. Updating the irHeadband is done through the iCE software. To update the software on the irHeadband, open iCE and plug the USB cable into your computer and then the irHeadband. If an update is available, iCE will notify you and give you the option to update. The irHeadband **P** LED light will blink during programming.

Resetting the irHeadband

From time to time you may wish to sync different weapons to the irHeadband, or disconnect it from iCE. To erase the memory and wipe out any sync data, press and hold the Control Box button of the function you wish to clear. For example, to un-sync any weapons, press and hold the **S** button for 2-3 seconds until the **S** light on the button turns off. To disconnect from iCE, press and hold the **C** button until the **C** light turns off or just power the irHeadband off then on again. The Mode button cannot be reset.

Charging the irHeadband

To charge the irHeadband, plug the supplied 5V 1 amp wall charger into an outlet and then into the headband's USB port. The **P** button LED light will blink while charging and become solid when fully charged. A completely dead battery will take approximately 3.5 hours to fully charge. It is acceptable to recharge the battery at any time. *Take care to remove USB cord safely and gently.*

Maintenance

The irHeadband is an extremely durable piece of equipment and will last for years of regular use. However, there are several things to keep in mind to ensure long life of the system. Do not soak the irHeadband completely under water during washing as you may damage the electronic components. Use a wet, rugged wash cloth to wipe down the headband instead. If a complete wash must be done, contact iCOMBAT support for instructions on how to remove the electronics from the irHeadband.

Performance Specifications

RF Range

The irHeadband is equipped with several radios for communicating with the rest of the iCOMBAT system. A short range radio establishes communication / syncing with the IR weapons. The maximum operating range between an IR weapon and irHeadband is 10 feet. The irHeadband is also equipped with a long range radio for communicating with the CCM server up to a significant distance. RF range varies with different terrain and obstacles. It is recommended that users keep a clear line of site between the weapons and irHeadband, and also between the headband and CCM when possible.

Battery Life

The irHeadband is powered by rechargeable lithium ion batteries inside the Control Box. Fully charged batteries will provide up to approximately 18 hours of on time depending on activity and the number of items synced.

Environmental Conditions

The irHeadband's design and durability allow it to be used in a variety of environments without issue. It can be used in temperatures ranging from 32 - 110 degrees Fahrenheit (0 - 43 degrees Celsius). Colder weather may begin to degrade performance. Damp or dry playing areas will not affect the irHeadband. Using it in light rain is fine, but be sure to let it completely dry out before using again.

iCOMBAT is a division of Universal Electronics, Inc.